

## *Postsolenobia nanosella* sp. n. (Psychidae) from Slovenia

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**Abstract.** A new psychid species *Postsolenobia nanosella* sp. n. is described from south-western Slovenia (Nanos Mountains). The systematic position of this species in *Postsolenobia* Meier, 1958 as well as the differences between similar species of this genus are discussed. The new species is characterized by its very small size, reduction of some veins, grey colour of the head, pure white forewings with a dark-brown pattern and dark-grey hindwings. The cases were collected on rocks on sunny slopes with xerothermic vegetation.

**Key words.** Lepidoptera, Psychidae, *Postsolenobia*, sp. n., Nanos Mountains, Slovenia.

### Introduction

During several excursions to Slovenia in 2000–2002 a series of specimens of the tribe Dahlicini was collected in the Nanos Mountains. These specimens do not belong to any of the species hitherto known within the tribe. This species, described below as new, is apparently a member of the genus *Postsolenobia* Meier, 1958. Morphological features of the species correspond with characters defining *Postsolenobia*, i.e.: absence of epiphysis on foretibia, five veins from the discal cell of the hindwing, wingspan less than 10 mm, and cloaking scales of forewing falling into class 5 of Sauter (1956). *Postsolenobia* was later synonymized with *Dahlica* Enderlein, 1912 by Arnscheid (1988), but again treated as a valid genus in recent works involving taxonomic revisions and keys for the genera of the family Psychidae (Sauter & Hättenschwiler 1991, 1999).

### *Postsolenobia nanosella* sp. n.

**Material.** Holotype ♂ Slovenia, Nanos Mts., Rebrnice 750 m, 3.v.2002 pupa (emerged 18.v.2002), Liška leg. Paratypes: ♀ Slovenia, Nanos Mts., Rebrnice 750 m, 19.v.2001 pupa (emerged 30.v.2001), Petrů leg.; 9♂ same data, but 28.v.2000, 26.v.2001, 1♂ 26.v.2001 pupa (emerged 30.v.2001), 2♂ 3.v.2002 pupa (emerged 13.v.2002 and 18.v.2002), 1♀ 3.v.2002 pupa (emerged 18.v.2002), Liška leg.; 2♂ 25., 28.v.2001, 1♀ 28.v.2001 pupa (emerged 2.vi.2001), Skyva leg.; 1♂ 3.v.2002 pupa (emerged 10.v.2002), Šumpich leg.

The holotype and a female paratype are deposited in the Slovenian Museum of Natural History Ljubljana (Prirodoslovni muzej Slovenije); other paratypes are in coll. J. Liška, M. Petrů, J. Skyva, J. Šumpich, the National Museum Prague (Národní museum Praha), and the Zoological State Collection Munich (Zoologische Staatssammlung München).

Further material (not revised by the authors): 10♂ Slovenia, Nanos Mts., 800 m, 25.v.1993 (ex pupa), 30♂, 8♀ same data, but 1.–5.vi.2002 (ex pupa), Lasan leg. et coll.; 2♂ same data, but 14., 17.v.2002 (ex pupa), Gomboc leg. et coll.; 5♂ same data, but 700 m, 25.v.2000, 14.v.2002, Deutsch leg. et coll.

**Male** (Figs. 1-1, 1-2). Wingspan of the type series 8.1–9.0 mm, 8.5 mm on average (n=15), and 8.3 mm in the holotype. Head covered with grey hairlike scales, partly mixed with white. Labial palpi reduced, stump-shaped, covered with grey scales. Antennae with 24–26 segments (including scape and pedicel), ca 2/3 of forewing length. Distance between eyes twice their diameter. Ocelli absent. Thorax

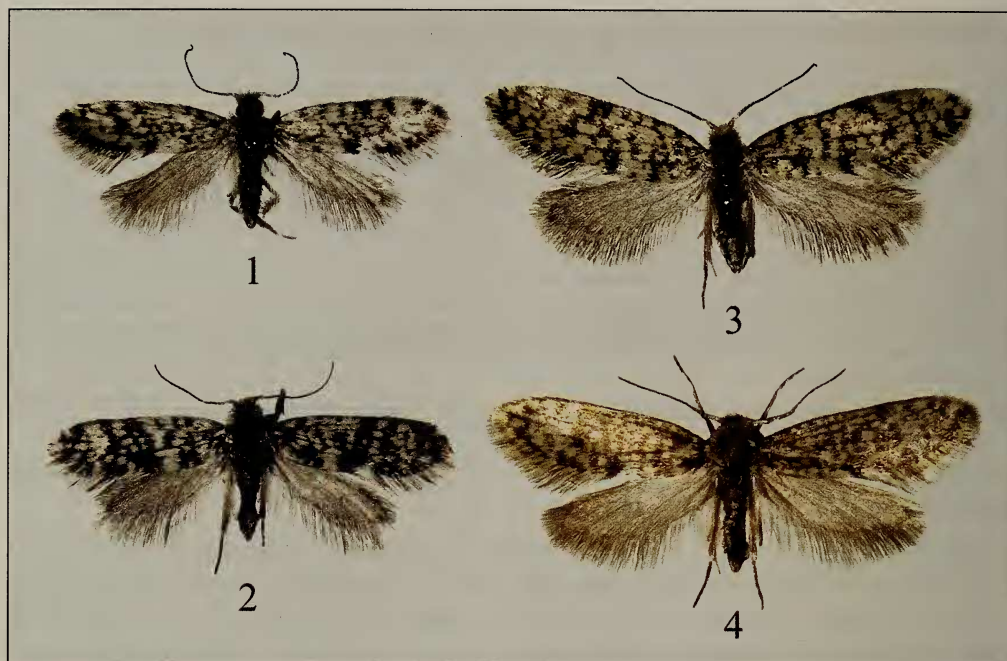
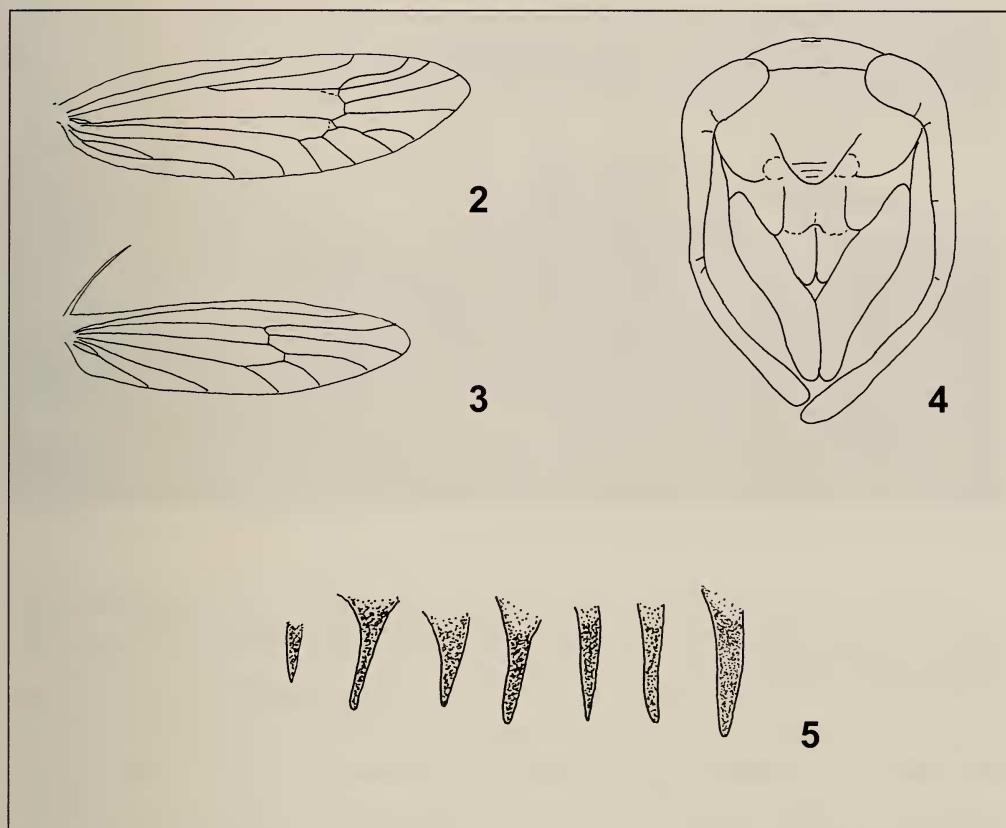


Fig. 1. Males of *Postsolenobia*. 1 – *P. nanosella* sp. n., holotype, Slovenia, Nanos Mts., Rebrnice, 750 m, 3.v.2002 pupa, emerged 18.v.2002. 2 – *P. nanosella* sp. n., paratype, same data as holotype. 3 – *P. juliella* (Rebel, 1919), Italy, Interneppo, 4.v.2002 pupa, emerged 6.v.2002. 4 – *P. thomanni* (Rebel, 1936), Switzerland, Brusio, Puschlav, 12.iv.1942, ex pupa.

and tegulae covered with a mixture of grey and white hairlike scales, the same colour as the head. Length of forewing 3.5 times the width. After removing the scales, the apex of the forewing is shown to be pointed. Hindwing slightly narrower than forewing. Legs striped white and brown-grey, in darker specimens the white colour is almost absent. Forewing fringe white with some grey. The dark cilia line is well marked. The ground colour of the forewing is pure white with a moderately dark-brown pattern, with no yellowish colour. The extent of the white and brown colour varies between specimens and white scales are sometimes mixed with grey ones. Cloaking scales covering the forewing fall into class 5 of Sauter (1956). Hindwing densely covered with dark grey scales. Forewing venation (Fig. 2) with 9 veins from the discal cell. M2 and M3 usually stalked. Accessory and intercalary cells sometimes present on forewing. Accessory cell (present/examined) 3/6, intercalary cell 1/6. The presence of additional cells was also mentioned recently in descriptions of similar small species from the tribe Dahlicini from eastern Europe (Herrmann & Weidlich 1999; Rutjan 2000). Hindwing venation (Fig. 3) without additional cells, only 5 veins from the discal cell. M2 and M3 almost completely merged, sometimes with a long stalk (5/14). Foretibia without epiphysis, midtibia with 1 pair and hindtibia with 2 pairs of spurs. Abdomen scaled dark grey to black. Genitalia are typical of Dahlicini (cf. Căpușe 1964). Genital index is approximately 1.05–1.16 ( $n = 3$ ). The valva is 3.5 times longer than the width in the middle.



Figs. 2-5. *Postsolenobia nanosella* sp. n., paratypes. 2. ♂, forewing venation. 3. ♂, hindwing venation. 4. ♀, pupal skin. 5. ♀, dorsal field thorns.

Female. 16 antennal segments. Body length about 3.5 mm; head, thorax, and abdomen whitish dorsally, greyish laterally and ventrally, hairlike scales on whitish-grey. Foretibia without epiphysis. Pupal skin (cf. Hättenschwiler 1977) and dorsal field thorns illustrated on Figs. 4-5.

Cases. The cases are 4.2-5.8 mm long (n=20), 5.3 mm on average and 5.5 mm in the holotype, straight, composed of small pale greyish-brown particles of limestone and soil.

Type locality. Slovenia, Nanos Mountains, Rebrnice, 750 m a.s.l., 45°48'N, 14°00'E (Fig. 6). The locality lies outside the Alps, in the Slovenian Karst in a very moderate calcareous country. The territory of the Slovenian Karst is known for its high biological diversity and relatively high rate of endemism.

Habitat and life history. Cases were collected on sunny, south-west facing calcareous rocky slopes with xerothermic vegetation (*Quercus pubescens*, *Fraxinus ornus*, etc.). The altitude is 700-800 m. Cases with larvae were observed from early spring (March) until mid May. Most probably the larvae feed on lichens. The adults were collected from the second half of May to the first days of June. The maximum occurrence is at the end of May. *Dahlica triquetrella* forma parthenogenetica was the only other species of the tribe Dahlicini found in the vicinity of the locality.



Fig. 6. The type locality of *Postsolenobia nanosella* sp. n.

**Distribution.** At present *Postsolenobia nanosella* is known only from the type locality. It can also be expected to be found in the neighbouring mountains (e.g. Tarnovski Gozd Mts.).

**Remarks.** The type locality of *P. juliella* (Rebel, 1919) is given as Monte Matajur in northern Italy (Rebel 1919; Arnscheid 1988). In the original description of that species, two paratypes were reported from Reifenberg (Görz), now called Branik, southwest of Ajdovščina in Slovenia. In the authors' opinion, the population from the latter locality may belong to the newly described species. Unfortunately, the types specimens could not be traced at the Naturhistorisches Museum in Vienna.

**Derivatio nominis.** The name of the species is derived from that of the type locality of the new species, the Nanos Mts.

## Discussion

The new species *Postsolenobia nanosella* appears to be most closely related to *P. juliella* (Rebel, 1919) and *P. thomanni* (Rebel, 1936). *Postsolenobia juliella* has a yellowish white head in contrast to its darker thorax (Fig. 1, 3). *Postsolenobia thomanni* has brown hairlike scales on the head (Fig. 1, 4). The head of *P. nanosella* has grey hairs, partly mixed with white, especially in pale specimens. At first sight the forewing is grey-white, in contrast to the two other species. The ground colour of the forewing is pure white, occasionally with a mixture of single grey scales, mainly in the costal sector. The dark-brown markings are of high contrast. The hindwing is grey and markedly darker compared to the forewing. Furthermore, *P. nanosella* is smaller and its wings are shorter than in *P. juliella*. The ratio between the length of the aedeagus and valva (genital index) is between 1.05–1.16, which is somewhat more than in the two other species. The remaining species of this genus, *P. banatica* (M. Hering, 1922) can be distinguished by the absence of marked spots on the wings and by a larger genital index. All characters are summarised in Table 1.

**Tab. 1.** Specific characters of *Postsolenobia thomanni*, *P. juliella*, *P. nanosella*, and *P. banatica*. Data are taken from Căpușe (1964), Hättenschwiler (1997), Hering (1922), Meier (1957), Rebel (1936) and from the following material: *Postsolenobia thomanni*: ♂ **Switzerland**, Brusio, Puschlav, case 12.iv.1942, Weber leg., Petrù coll. – *Postsolenobia juliella*: 4♂ **Italy**, Gemona, 23., 24., 26., 28.iv.1952, Sieder leg., Petrù coll.; ♂ Italy, Dolomiten, Piano Fugazze, 1300 m, 3.vi.1960, Meier leg., Petrù coll.; ♂ Italy, Matajur, 1100m, 11.v.1961, Sieder leg., Petrù coll.; ♂ Italy sup., Friaul, Mt. Matajur, 1200 m, 16.v.1961, Meier leg., Petrù coll.; 2♀ Italy, Monte Festa, 23.v.1968, e.p., Schätz leg., Petrù coll.; ♂ Italy, Monte Festa, 24.v.1968, e.p., Schätz leg., Petrù coll.; ♂ Italy, Monte Festa, 14.v.1969, e.o., P. Hättenschwiler leg., Petrù coll.; 4♂, 1♀, Italy, Matajur, 4.v.2002, e.p., Liška & Petrù leg. et coll.; 1♂, 1♀, Italy, Gemona-Interneppo, 4.v.2002, e.p., Liška & Petrù leg. et coll. – *Postsolenobia banatica*: ♂ **Romania**, Domogled, 18.iv.1964, Căpușe leg.; ♂ Baile Herculanae, 15.v.1965, Căpușe leg., Petrù coll.

Males	<i>P. thomanni</i>	<i>P. juliella</i>	<i>P. nanosella</i>	<i>P. banatica</i>
Wingspan (mm)	8–10	9–10	8–9	10
Cloaking scales (Sauter 1956)	5–6	5	5	5
Colour of head	brown	yellowish	grey	pale yellow
Genital index	0.84–1.08	0.85–0.95	1.05–1.16	1.33–1.39

### Acknowledgements

We are grateful to our colleagues for their kind help during the preparation of the manuscript: G. Elsner (photography of adults), R. J. Heckford (linguistic revision), P. Kapitola (translation to English), Z. Laštůvka (text revision), J. Skyva and J. Šumpich (part of type material). Financial support came from the Biotop foundation Prague.

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